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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,166	03/25/2004	Jari Vallstrom	KOLS.100PA	6817
7590 Hollingsworth & Funk, LLC Suite 125 8009 34th Avenue South Minneapolis, MN 55425			EXAMINER AJAYI, JOEL	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 08/09/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/809,166

Applicant(s)

VALLSTROM ET AL.

Examiner

Joel Ajayi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to Applicant's amendment filed on April 23, 2007. **Claims 1-30** are still pending in the present application. **This action is made FINAL.**

#### ***Response to Arguments***

Applicant's arguments filed April 23, 2007 have been fully considered but they are not persuasive.

The argument features establishing an outside connection; giving a control command for adjusting an outside LPRF connection activity.

The examiner respectfully disagrees with the applicant's statement and asserts that Hamalainen et al. discusses a control device that controls the devices within a Bluetooth network. The network comprises of several piconets, whereby the devices within the piconets communicate with each other (paragraph 23, line 8 - paragraph 25, line 23) e.g. it is possible to output information from a portable computer via the Bluetooth network and an external telecommunication network (outside LPRF connection) to a printer that is located in a different town (paragraph 8, lines 5-9). Hamalainen et al. enables centralized control of a plurality of low-power radio frequency networks, whereby calls can be switched to a plurality of different low-power networks, when necessary (paragraph 12, lines 8-12); this means that a control command is given to adjust the connection when needed.

The argument features pausing the established outside LPRF connection activity.

The examiner respectfully disagrees with the applicant's statement and asserts that Cho discusses the usage of a hold mode when there is no need to send data in a relatively long period of time (paragraph 9, lines 5-7).

The argument features the other LPRF connection being established between the core unit and the same peripheral unit that establishes the outside LPRF connection.

The examiner respectfully disagrees with the applicant's statement and asserts that Hamalainen et al. discusses that all Bluetooth devices are equal within the network, but the first device transmitting data in the network becomes a master, whose slaves all the other devices in the network are. However, the devices can change roles such that a slave becomes a new master whose slaves the old master and the other devices in the network are (paragraph 19, lines 6-14). In the second piconet, the access point is the master (control device), while the portable computer is the peripheral unit, which establishes a connection with the access point. The portable computer is the same peripheral unit that established the outside connection with a printer in a different town (paragraph 8, lines 5-9; paragraph 23, lines 8-21).

The argument features restricting use of the outside LPRF connection.

The examiner respectfully disagrees with the applicant's statement and asserts that Cho discusses transmitting and receiving data between the master and slaves only for a predetermined period of time (paragraph 9, lines 5-7).

The argument features the other LPRF connection being established between the core unit and a unit other than a peripheral unit of the radio system.

The examiner respectfully disagrees with the applicant's statement and asserts that Hamalainen et al. discusses devices that can be controlled from the Bluetooth network, the access point (core unit in this instance, which is a component of the second piconet); where it is possible to output information from a portable computer via the Bluetooth network and an

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external telecommunication network to a printer (a unit other than a peripheral unit in the second piconet) (paragraph 8, lines 3-9; paragraph 23, lines 8-21).

The argument features evidence of motivation to combine Cho and Hamalainen.

The examiner respectfully disagrees with the applicant's statement and asserts that Cho's invention involves a wireless communication method for preventing communication interference (paragraph 13, lines 1-10), and Hamalainen's invention involves controlling LPRF networks, which is used in order to reduce interference (paragraph 25, lines 1-5). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Hamalainen into the method of Cho in order to reduce interference.

In view of the above, the rejections using Cho and Hamalainen are maintained as repeated below.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cho (U.S. Patent Application Number: 2003/0045242)** in view of **Hamalainen et al. (U.S. Patent Application Number: 2002/0061744)**.

Consider **claim 1**; Cho clearly discloses a method of interference control in a radio terminal equipment arrangement comprising: a cellular core unit and at least one peripheral unit, the cellular core unit communicating with a peripheral (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12), the method comprising: establishing a connection to a unit other than the core unit by a peripheral unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12); giving a command by the core unit for adjusting the connection activity of the peripheral unit when another connection needs to be established by the core unit, the other connection operating on the same frequency band as the outside connection of the peripheral unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12); and adjusting the connection activity of the peripheral unit based on the control command received from the core unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12).

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Except:

Using a wireless low power radio frequency (LPRF), giving a control command, and establishing an outside connection.

In the same field of endeavor Hamalainen clearly discloses using a wireless low power radio frequency (LPRF), giving a control command (control data), and establishing an outside connection (paragraph 5, lines 1-7; paragraph 8, lines 3-9; paragraph 19, lines 6-14; paragraph 23, line 8 - paragraph 25, line 23).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Hamalainen into the method of Cho in order to reduce interference.

Consider **claim 16**; Cho clearly discloses a radio terminal equipment arrangement (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12) comprising: a cellular core unit and at least one peripheral unit, the cellular core unit being configured to communicate with a peripheral unit using a connection, a peripheral unit being configured to establish a connection to a unit other than the core unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12), wherein the core unit is further configured to give a control command for adjusting the connection activity of the peripheral unit when another connection needs to be established by the core unit, the other connection operating on the same frequency band as the connection of the peripheral unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12); and the peripheral unit is configured to adjust the connection activity based on the control command received from the core unit (paragraph 6, line 1- paragraph 7, line 9; paragraph 9, lines 1-12).

Except:

Using a wireless low power radio frequency (LPRF), giving a control command, and establishing an outside connection.

In the same field of endeavor Hamalainen clearly discloses using a wireless low power radio frequency (LPRF), giving a control command (control data), and establishing an outside connection (paragraph 5, lines 1-7; paragraph 8, lines 3-9; paragraph 19, lines 6-14; paragraph 23, line 8 - paragraph 25, line 23).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Hamalainen into the method of Cho in order to reduce interference.

Consider **claims 2 and 17**; Cho discloses establishing the other LPRF connection (new connection) by the core unit (master device) after the outside LPRF connection activity of the peripheral unit (slave device) has been adjusted (paragraph 6, line 1- paragraph 7, line 9).

Consider **claims 3 and 18**; Cho discloses that before establishing the outside LPRF connection (in order to construct a new connection), the method further comprising informing the core unit about the outside LPRF connection being established (paragraph 6, line 1- paragraph 7, line 9).

Consider **claims 4, 11, 19, and 26**; Cho discloses periodically pausing the established outside LPRF connection activity (hold mode) and communicating with the core unit during the pause in order to resolve whether the core unit has control commands for the peripheral unit for adjusting the outside LPRF connection activity (park mode) (paragraph 9, lines 1-12).

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Consider **claims 5 and 20**; Cho discloses using a Bluetooth sleep mode techniques (hold, sniff, park) in order to resolve whether the core unit has control commands for adjusting the outside LPRF connection activity (paragraph 9, lines 1-12).

Consider **claims 6 and 21**; Hamalainen discloses that the other LPRF connection being established between the core unit (access point) and a peripheral unit (portable computer) (paragraph 23, lines 8-25).

Consider **claims 7 and 22**; Hamalainen discloses that the other LPRF connection being established between the core unit and the same peripheral unit that establishes the outside LPRF connection (printer) (paragraph 8, lines 5-9; paragraph 23, lines 8-25).

Consider **claims 8 and 23**; Hamalainen discloses that the other LPRF connection being established between the core unit and a unit other than a peripheral unit of the radio system (external telecommunication network) (paragraph 8, lines 5-9).

Consider **claims 9 and 24**; Cho discloses the step of adjusting the outside LPRF connection comprising decreasing the power of the outside LPRF connection (power saving modes) (paragraph 9, lines 1-12).

Consider **claims 10 and 25**; Cho discloses the step of adjusting the outside LPRF connection comprising restricting use of the outside LPRF connection (the device are allowed to transmit and receive data only for a predetermined period of time) (paragraph 9, lines 7-9).

Consider **claims 12-14, 27-29**; Hamalainen discloses that the outside LPRF connection or the other LPRF connection is a WLAN connection (Hamalainen, paragraph 6, line 1- paragraph 7, line 11).

Consider **claims 15 and 30**; Cho discloses informing the core unit when the outside LPRF connection ends (the master/core unit communicates and negotiates with the slave devices, this is done for a predetermined time period, therefore when the time period ends the master/core unit is informed) (paragraph 11, lines 1-11).

***Conclusion***

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday 7:30am to 4:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Joel Ajayi*

July 24, 2007



CHARLES N. APPIAH  
SUPERVISORY PATENT EXAMINER